

I claim

1. A pharmaceutical composition comprising substantially optically pure enantiomer (S,S) s-adenosylmethionine or a defined non-racemic ratio of (S, S) -s-adenosylmethionine : (R,S)- s-adenosylmethionine, their pharmaceutically acceptable salts and a pharmaceutically acceptable carrier
2. A pharmaceutical composition as described in claim 1 wherein the defined non-racemic ratio of (S,S)-s-adenosylmethionine : (R,S)-s-adenosylmethionine is about 80% to about 100% : about 20% to about 0% by weight respectively.
3. A pharmaceutical composition as described in claim 1 wherein the defined non-racemic ratio of (S,S) s-adenosylmethionine : (R,S)-s-adenosylmethionine is about 95 % to about 100% : about 5% to about 0% by weight respectively.
4. A pharmaceutical composition as described in claim 1 wherein the pharmaceutically acceptable salt for each enantiomer is selected from the group consisting of : a lipophilic salt of S-adenosyl-L-methionine(SAM) of the formula $\text{SAM}^{\text{sup.n}+} [\text{R}-\text{CO}-\text{NH}-(\text{CH}_2)_2-\text{SO}_3^{\text{sup.-.sub.3}}]_{\text{sub.n}}$ in which R-CO is a member selected from the group consisting of C₁₂-C₂₆ saturated and unsaturated, linear and branched acyl and C₁₂ -C₂₆ cycloalkyl-substituted acyl, and n is an integer from 3 to 6 according to the SAM charge ; double salts corresponding to the formula $\text{SAM}^{\text{sup.+}} \cdot \text{HSO}_4^{\text{sup.-.sub.2}} \cdot \text{SO}_3^{\text{sub.4}} \cdot 2 \text{CH}_3 \text{C}_6\text{H}_4 \text{SO}_3^{\text{sub.3}}$ H. ; salts (S, S) -s-adenosylmethionine with sulphonic acids selected from the group consisting of methanesulphonic, ethanesulphonic, 1-n-dodecanesulphonic, 1-n-octadecanesulphonic, 2-chloroethanesulphonic, 2-bromoethanesulphonic, 2-hydroxyethanesulphonic, 3-hydroxypropanesulphonic, d-,l-,d,l-10-camphorsulphonic, d-,l-,d,l-3-bromocamphor-10-sulphonic, cysteic, benzenesulphonic,p-

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sub
B1

090442Z 030600Z

Sub B1

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ADHD, sleep dysregulation, organ preservation, dyslipidemias, excess sebum production, migraines, bile dysfunction, bile dysfunction caused by pregnancy and use of contraceptive medications, depression, acute and chronic liver disease, alcohol liver disease, hepatitis B and C, cirrhosis of the liver, ischemic reperfusion injury, strokes, Parkinson's disease, MS, memory disturbances, impaired memory, memory loss, pancreatitis, intrahepatic cholestasis, inflammation, pain, side effects of administration of chemotherapy, total parenteral nutrition induced liver disease, increased levels of tumor necrosis factor alpha, seborrhea, dermatitis, peripheral occlusive arterial disease, low glutathione levels, administration of neuroleptic drugs, administration of cyclosporin A, asthma, alcohol withdrawal.

10. The method of claim 8 wherein the condition to be prevented is selected from the group consisting of: ageing, ageing of the skin, Alzheimer's disease, osteoarthritis, rheumatoid arthritis, cancer, conditions of hypomethylation, mitochondrial diseases, hypomethylation of DNA and RNA, HIV/AIDS, anxiety, attention deficit disorder and ADHD, sleep dysregulation, organ preservation, dyslipidemias, excess sebum production, migraines, bile dysfunction, bile dysfunction caused by pregnancy and use of contraceptive medications, depression, acute and chronic liver disease, alcohol liver disease, hepatitis B and C, cirrhosis of the liver, ischemic reperfusion injury, strokes, Parkinson's disease, MS, memory disturbances, impaired memory, memory loss, pancreatitis, intrahepatic cholestasis, inflammation, pain, side effects of administration of chemotherapy, total parenteral nutrition induced liver disease, increased levels of tumor necrosis factor alpha, seborrhea, dermatitis, peripheral occlusive arterial disease, low glutathione levels, administration of neuroleptic drugs, administration of cyclosporin A, asthma, alcohol withdrawal.

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11. The method of claim 8 wherein the route of administration of the composition is chosen from the group consisting of topically, systemically, orally, intranasally, rectally, transdermally,
12. The method of claim 8 wherein the composition can be administered together with another drug selected from the group consisting of levodopa, cyclosporin A, ibuprofen, aspirin, methotrexate, a neuroleptic, vitamin B, folic acid
13. A method of claim 1 wherein the composition of claim 1 is administered to a warm-blooded animal to treat a condition of lowered anti-oxidant levels by increasing said antioxidant levels comprising administering to an animal in need thereof an effective amount of the composition of claim 1.